

AMENDMENT OF SOLICITATION / MODIFICATION OF CONTRACT				1. CONTRACT ID CODE		PAGE OF PAGES 1 5	
Initials & Control Number: 5912G/012584							
2. AMENDMENT/MODIFICATION NO. N66604-01-R-2584-0004		3. EFFECTIVE DATE 2001 MAY 24		4. REQUISITION/PURCHASE REQ. NO. N66604-1008-06N3		5. PROJECT NO. (If applicable)	
6. ISSUED BY Commercial Acquisition Department, Building 11 Naval Undersea Warfare Center Division, Newport Code 5912 Simonpietri Drive Newport, RI 02841-1708		CODE N66604		7. ADMINISTERED BY (If other than Item 6) CODE			
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)				(X)		9A. AMENDMENT OF SOLICITATION NO. N66604-01-R-2584	
				X		9B. DATED (SEE ITEM 11) 2001 APR 24	
						10A. MODIFICATION OF CONTRACT/ORDER NO.	
						10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE					
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of offers <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning 3 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required)							
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.							
(X) A. THIS CHANGE ORDER IS ISSUED PURSUANT TO : (Specify authority)							
THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.							
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).							
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:							
D. OTHER (Specify type of modification and authority)							
E. IMPORTANT: Contractor <input type="checkbox"/> is not <input type="checkbox"/> is required to sign this document and return 3 copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)							
<p>This amendment provides responses to questions from potential offerors, notifies potential offerors of a classified package to be provided, and changes Provision L34(b)(2).</p>							
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
POINT OF CONTACT: Carol G. Boehler at Tel: 401-832-1489; Fax: 401-832-4820; E-mail: boehlercg@npt.nuwc.navy.mil							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA		16C. DATE SIGNED	
BY _____ (Signature of person authorized to sign)				BY _____ (Signature of Contracting Officer)			

I. The following responds to questions from potential offerors:

1. On page 5 of the RFP, CLIN item 29 reads, Data for Item 0029 per Exhibit “A,” etc. Shouldn’t it read “Data for item 0028 per Exhibit A?”

ANSWER: Yes.

2. On page 21 of the RFP in section I09-4A, are the first article characteristics and test requirements contained in the Classified supplement?

ANSWER: Yes.

3. Section L30(b)(4): Does the 60 page size limitation for Volumes 1 and 2 include resumes and past performance information?

ANSWER: Yes. For past performance, we want names, addresses, telephone numbers, etc. and enough information to determine relevance to this acquisition (small paragraph).

4. In CDRLs A001, A003, A004, A005, A006, and A007: We believe that NAVSEA PMS 4351C should be added to the Block 14 Addressee list Addendum 1. Please confirm.

ANSWER: The current address is:

PEO Submarines
2531 Jefferson Davis Highway
Arlington, VA 22242-5168
ATTN: Mike Davenport, NAVSEA 92C

(This address will likely change before contract award)

5. Addendum 3, page 1 of 1 to Exhibit A: Block 2 indicates that drawings are to be marked with the contractor’s CAGE but (1) indicates use CAGE 53711. Which is correct?

ANSWER: Contractor’s Cage Code.

6. SOW 3.2 page 3 of 5: Does the Classified supplement detail what is meant by “full First Article Tests” or is amplification required in the current SOW?

ANSWER: First article test requirements are contained in the performance specification.

7. In accordance with M21 of the RFP, what is the extent of the Government testing? Does it include all RF and environmental tests as per the classified supplement?

ANSWER: If it is the option of the contractor to have the Government perform the tests, the Government will perform the following: Antenna pattern tests of the antenna assembly, temperature, hydrostatic pressure, vibration, thermal shock and EMC tests. Regardless of the contractor’s approach to meeting test requirements, the Government will perform MIL-ADF system tests. The contractor shall perform RF signal path test since this test has to be conducted during fabrication. The contractor shall perform requirements that shall be demonstrated by analysis (such as MTBF) and all inspections.

8. Since the contract resulting from this solicitation will be FFP and the contractor will be held responsible for meeting SOW and Performance Specification requirements (i.e. either through first article or production testing), what will constitute the criteria that the Government will apply for the review (and subsequent approval) of the design option selected by the contractor and presented to the government in the Preliminary and Critical Design Review meetings held 3 and 6 months after contract award (see Sections 3.1.3.1 and 3.1.3.2 of the SOW)?

ANSWER: The criteria will be the ability of the contractor to demonstrate the design will meet the requirements of the performance specification. Performance relative to the MIL-ADF System performance (DF bearing accuracy) will also be a factor.

9. First article and production units will be required to meet SOW and Performance Specification requirements as demonstrated through either contractor (or government) developed test procedures. Responsibility for test procedure development and test conduct is to be determined by the government at the time of contract award. If the government selects the contractor to perform

these tests, there is a process for the government to approve the procedures that the contractor will develop (i.e. an agreement is reached before testing as to the adequacy of the tests and the test methodology). However, if the government is to conduct the tests, there is no identification (either in the SOW or in the Performance Specification) of how the government would conduct these tests (i.e. test set-up, fixtures, anechoic chambers, stimulation methods, data gathering methodology, etc.). In addition, there is no provision for the contractor to participate in the development of these test approaches or to concur with the methodology prior to the tests being conducted. Since meeting Type 18I MIL-ADF Antenna performance requirements is the largest part of the acceptance approach under this FFP contract, please clarify how the government proposes to ensure that there will be government/contractor agreement with the government's test methodology before testing is accomplished.

ANSWER: The selection of whether the Government or the contractor performs testing will be determined by the proposed approach of the successful offeror (i.e. it is the contractor's decision). If it is the option of the contractor for the Government to perform the test the Government will perform the following: Antenna pattern tests of antenna assembly, temperature, hydrostatic pressure, vibration, thermal shock, EMC tests and ADF system test. The contractor shall perform RF signal path test since this test has to be conducted during fabrication. Requirements that shall be demonstrated by analysis (such as MTBF), inspection or extension shall be the responsibility of the contractor. If the contractor does not have the required facilities, it is not required to choose the Government to perform the test... it may subcontract commercially. If the Government performs the tests, the antenna pattern measurements will be conducted in a 100' tapered anechoic chamber and a compact range facility. Both these facilities are located in Newport, RI. Test procedures, which are not documented, will be based on procedures established for testing the prototype antenna assembly.

10. The SOW (Section 3.0) states, "The Type 18I MIL-ADF Antenna shall not degrade the performance of the Periscope Automatic Direction Finding System . . ." The government's response to a previously submitted question asking for MIL-ADF requirements (so that the criteria for degradation could be assessed), identified that "The MIL-ADF test requirements are not included . . . Test will be conducted at the NUWC Periscope Facility." Please clarify how responding bidders can quantify the time/complexity of ensuring that the Type 18I MIL-ADF Antenna being provided by this contract will not degrade other system performance without identification of performance criteria.

ANSWER: The primary purpose for testing the antenna assembly with the ADF system is to verify that the DF performance specification is met. The ADF requirement has been added to the appendix of the performance specification. Also, typical DF antenna patterns (along with other antenna data) of the prototype Type 18I antenna have also been added. The prototype antenna assembly has never been tested with the ADF system and performance is unknown and not guaranteed to meet system performance requirements. However, a number of the prototype antenna assemblies have been deployed over the past several years without report of system degradation.

11. The following unclassified questions pertain to the "PERFORMANCE SPECIFICATION FOR THE IMPROVED TYPE 18 PERISCOPE MIL-ADF ANTENNA ASSEMBLY (U) dated 24 April 2001":

- a. Section 4.2.5.1.1. (Non Operational) (U) Requires that "System in board equipment shall meet specified performance requirements after being subjected to a non-operating temperature range of -40°C to $+71^{\circ}\text{C}$." Please define what constitutes system in-board equipment and whether it will be required to be provided under the contract that will be awarded.

ANSWER: This is an oversight. There is no inboard equipment associated with this contract. The Government will provide inboard equipment required to control the functions of the antenna assembly. This statement has been removed from the specification.

- b. Section 4.2.5.5 (Hydrodynamic Load) (U) requires the assembly to "meet the requirements of 4.2.5.5.1 or 4.2.5.5.2, whichever is greater." Section 4.5.5.2 (Hydrodynamic Flow Loading) requires that "The antenna assembly shall be designed and installed to withstand damage . . . at speeds and angle of attack as specified in ships building specification." The equation provided for calculation does not address "angle of attack". In addition, the classes of ships on which the antenna will be installed are not identified either in the solicitation or "Performance Specification" and the ships building specifications are not available to potential bidders. Please provide "Angle of Attack" specifications for ship classes on which the antenna will be installed.

ANSWER: Angle of attack does not apply since this is a cylindrical unit. The classes of ships are SSN 688/688I and SSN 21. The speed for the calculation is provided in the specification.

- c. Also, the Hydrodynamic Loading requirements for "Wave Slap" and "Flow" loading appear to be somewhat excessive. Will the government consider reducing requirements to reflect normal ship operating levels?

ANSWER: No. This is the number that is used for wave slap and flow load for similar systems.

- d. Section 5.3.2.4.7 (Shock) (U) states, “This requirement (i.e. meeting Mil-S-901 requirements) shall be demonstrated by analysis”. The government’s previous response to a question addressing prototype compliance with “all SOW and Performance Specification requirements” (see Amendment 002) stated, “The Prototype has not been subjected to EMI, Vibration, Thermal Shock, or Temperature Tests”. Since shock test analysis was not included in the list of items that the prototype has not been subjected to, can it be assumed that the prototype has been demonstrated to meet shock (through analysis) and that the prototype has been tested to and meets all other requirements of the Performance Specification and/or SOW. The response to this question is considered critical since the Type 18I MIL-ADF Antenna Assembly is required to utilize COTS components (i.e. “maximize the use of commercial off-the-shelf components (COTS)” (see Section 3.1 of the SOW)) and the SOW authorizes the potential re-use of specific MIL-ADF components (see section 1.0 of the SOW). If the COTS components used in the prototype and the reused MIL-ADF components have been demonstrated as meeting MIL-S-901 requirements will the company awarded this contract only have to analyze the areas of difference from the prototype design?

ANSWER: The prototype antenna design is not guaranteed to meet the performance specification. Specifically, analysis has not been conducted to demonstrate the antenna assembly meets the shock requirement. Since the COTS components of the prototype design have not been qualified individually or installed in the assembly, the contractor will be required to analyze the entire design. The design has been provided to the contractor as reference information only. It is up to the contractor to determine the best approach to meeting the performance requirements.

- e. Section 4.2.3.1 (MTBF) (U) requires that “The MTBF of the antenna assembly shall not be less than 5000 hours. . . .” Was this MTBF established by conducting an analysis of the Prototype Type 18I MIL-ADF Antenna? If so, what was the analysis method used by the government in accomplishing these analyses? Can the government provide a copy of the reliability calculations used for the previous MIL-ADF antenna?

ANSWER: The MTBF was not analyzed for the prototype antenna.

- f. Section 5.3.2.5 (Electromagnetic Environmental Effects) (U) states, “The antenna shall be connected in a system arrangement for these tests.” Please identify the configuration for this test and whether the government will be providing the necessary “System” equipment (i.e. GFE) to allow the antenna to be connected in the manner specified.

ANSWER: The tests will be conducted with the antenna assembly installed on a Type 18 periscope that is interfaced with an ADF system. The equipment will be available at the periscope facility located in Newport, RI. A logical time to perform this test is when the Government conducts ADF performance tests.

12. [Was] the currently fielded antenna built to the drawing package and specification provided – and did the antenna meet the specification requirements?

ANSWER: The drawing package does reflect the design of the prototype antenna assemblies that have been fielded. Also, the antenna performance data of these assemblies were a basis of the performance specifications. Again, the prototype antenna design is not guaranteed to meet the performance specification. It has been provided to the contractor as reference information only. It is up to the contractor to determine the best approach to meeting the performance requirements. Typical antenna performance data of the prototype has been added to the appendix of the performance specification. Of particular interest to the bidder will be the antenna pattern data. There are anomalies in the DF patterns that are not captured by the performance specification (but ADF system specification does, see Appendix E). As noted before, these anomalies have not been characterized with respect to system performance. A change has been made to section L34 of the solicitation that requires the contractor to address the anomalies present in the data in its technical proposal.

13. The specification indicates that the shock requirements of MIL-S-901 are modified by PPD No. 802-6335747. Please provide a copy of PPD No. 802-6335747.

ANSWER: PPD No. 802-6335747 will be provided with the revised specification.

14. What is an acceptable specification of the heat/thermal signature requirements of the antenna and radome assembly expected for this program?

ANSWER: DC power requirements are specified in paragraph 4.1.2.1. Thermal analysis and measurements to characterize the thermal signature have not been performed. Other sensors that contain active components specify the following specification:

After being raised above the water surface, the average surface temperature shall not rise more than 0.1 Degree Celsius above water temperature in less than one minute. No point on the outer surface shall rise more than 1.0 degree Celsius above water temperature in less than one minute.

The above requirement will be added to the performance specification.

15. RF emission requirements are to be tested with the MIL ADF receiver connected. Is there data available or requirements for local oscillator re-radiation imposed on the receiver?

ANSWER: Response to be provided in a subsequent amendment.

II. We will mail a package containing the revised performance specification, which is classified CONFIDENTIAL, and the other documents noted above to those companies previously receiving the classified performance specification. This revised package does not change the performance requirements. Changes are made as noted above, as well as some grammatical changes.

III. Reference Provision L34, page 45 of 53. Delete (b)(2) as originally solicited and insert the following requirement:

(2) The offeror shall provide sufficient detail to demonstrate that it is knowledgeable in the following areas:

- (i) Submarine ES antennas including Omni directional antennas, polarization grids, DF antenna arrays, GPS antennas, and Voltage Probe Antennas;
- (ii) Submarine Radomes;
- (iii) Antenna integration and manufacture of antenna assemblies; and
- (iv) Antenna measurements and procedures.

As part of the technical discussion, the offeror shall discuss inherent problems associated with integration of multiple antennas into a relatively small antenna assembly. **Included shall be a discussion of the prototype antenna data provided in Appendix F of the performance specification. Specifically, the contractor shall demonstrate their knowledge by discussing the cause of DF antenna pattern degradation and proposed solutions for improving antenna patterns.** The offeror shall also discuss inherent problems presented by the radome.